

Serial Number 10/601020

Group Art No.: 1648

Amendments to the Claims

This listing of the claims will replace all prior versions, and listings, of claims in this application.

Listing of Claims:

1-48. **Canceled.**

49. (New) A method of diagnosing Hepatitis C virus (HCV) infection, comprising contacting an isolated, purified, or synthetic polypeptide comprising an amino acid sequence of at least 8 amino acids in length which amino acid sequence is encoded by an HCV nucleic acid molecule comprising a nucleotide sequence corresponding to SEQ ID NO:1 and translated in a reading frame corresponding to the reading frame of SEQ ID NO:1 and +1 to the standard HCV reading frame with a biological sample from a subject under conditions where the polypeptide and an antibody that binds to the polypeptide present in the sample can bind, and determining the presence or absence of the antibody, wherein presence of the antibody indicates infection with HCV.

50. (New) The method of claim 49, wherein the amino acid sequence is at least 14 amino acids in length.

51. (New) The method of claim 49, wherein the amino acid sequence is at least at least 30 amino acids in length.

52. (New) The method of claim 49, wherein the amino acid sequence is at least 100 amino acids in length.

53. (New) The method of claim 49, wherein the entire polypeptide is encoded by a reading frame +1 to the standard hepatitis C reading frame.

54. (New) The method of claim 49, wherein the amino acid sequence comprises at least 8 contiguous amino acids of SEQ ID NO:2.

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55. (New) The method of claim 49, wherein the amino acid sequence is identical to the amino acid sequence shown in SEQ ID NO:2.
56. (New) The method of claim 49, wherein the amino acid sequence comprises at least 8 contiguous amino acids of SEQ ID NO:9.
57. (New) The method of claim 49, wherein the amino acid sequence is selected from the group consisting of: SEQ ID NO: 3, SEQ ID NO:4, SEQ ID NO:5, and SEQ ID NO:6.
58. (New) The method of claim 49, wherein the amino acid sequence is selected from the group consisting of: LNLKEKP(X1)(X2)TPT(X3) (SEQ ID NO:3) and AAHRT(X4)SSR(X5)(X6)VR (SEQ ID NO:4) , wherein X1 is N or K, X2 is V or E, X3 is A or V, X4 is L or S, X5 is A or V, and X6 is A or V.
59. (New) The method of claim 49, wherein the amino acid sequence is selected from the group consisting of: LNLKEKPNVTPTA (SEQ ID NO:5) and AAHRTSSSRVVR (SEQ ID NO:6).
60. (New) The method of claim 49, wherein the polypeptide is a fusion protein.
61. (New) The method of claim 49, wherein translation of the polypeptide begins at the initiation site of the standard HCF open reading frame with a shift into the +1 reading frame.
62. (New) The method of claim 49, wherein an enzyme-linked immunosorbent assay (ELISA) assay is used to detect a binding antibody in the biological sample.
63. (New) The method of claim 49, wherein an radioimmunoassay (RIA) is used to detect a binding antibody in the biological sample.
64. (New) The method of claim 49, wherein an western blot assay is used to detect a binding antibody in the biological sample.

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65. (New) The method of claim 49, wherein the polypeptide is immobilized on a surface.
66. (New) The method of claim 49, wherein the polypeptide is supplied in a kit.
67. (New) A method of diagnosing Hepatitis C virus (HCV) infection, comprising contacting an isolated, purified, or synthetic polypeptide comprising an amino acid sequence of at least 8 amino acids in length which amino acid sequence is encoded by an HCV nucleic acid molecule which amino acid sequence is encoded by a nucleic acid molecule comprising a nucleotide sequence shown in SEQ ID NO:1 and translated in a reading frame +1 to the standard HCV reading frame with a biological sample from a subject under conditions where the polypeptide and an antibody that binds to the polypeptide present in the sample can bind, and determining the presence or absence of the antibody wherein presence of the antibody indicates infection with HCV.
68. (New) The method of claim 67, wherein the amino acid sequence is at least 14 amino acids in length.
69. (New) The method of claim 67, wherein the amino acid sequence is at least at least 30 amino acids in length.
70. (New) The method of claim 67, wherein the amino acid sequence is at least 100 amino acids in length.
71. (New) The method of claim 67, wherein the entire polypeptide is encoded by a reading frame +1 to the standard hepatitis C reading frame.
72. (New) The method of claim 67, wherein the amino acid sequence comprises at least 8 contiguous amino acids of SEQ ID NO:2.
73. (New) The method of claim 67, wherein the amino acid sequence is identical to the amino acid sequence shown in SEQ ID NO:2.

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74. (New) The method of claim 67, wherein the amino acid sequence comprises at least 8 contiguous amino acids of SEQ ID NO:9.

75. (New) The method of claim 67, wherein the amino acid sequence is selected from the group consisting of: SEQ ID NO: 3, SEQ ID NO:4, SEQ ID NO:5, and SEQ ID NO:6.

76. (New) The method of claim 67, wherein the amino acid sequence is selected from the group consisting of: LNLKEKP(X1)(X2)TPT(X3) (SEQ ID NO:3) and AAHRT(X4)SSR(X5)(X6)VR (SEQ ID NO:4) , wherein X1 is N or K, X2 is V or E, X3 is A or V, X4 is L or S, X5 is A or V, and X6 is A or V.

77. (New) The method of claim 67, wherein the amino acid sequence is selected from the group consisting of: LNLKEKPNVTPTA (SEQ ID NO:5) and AAHRTSSRAVVVR (SEQ ID NO:6).

78. (New) The method of claim 67, wherein the polypeptide is a fusion protein.

79. (New) The method of claim 67, wherein translation of the polypeptide begins at the initiation site of the standard HCF open reading frame with a shift into the +1 reading frame.

80. (New) The method of claim 67, wherein an enzyme-linked immunosorbent assay (ELISA) assay is used to detect a binding antibody in the biological sample.

81. (New) The method of claim 67, wherein an radioimmunoassay (RIA) is used to detect a binding antibody in the biological sample.

82. (New) The method of claim 67, wherein an western blot assay is used to detect a binding antibody in the biological sample.

83. (New) The method of claim 67, wherein the polypeptide is immobilized on a surface.

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84. (New) The method of claim 67, wherein the polypeptide is supplied in a kit.

85. (New) A method of diagnosing Hepatitis C virus (HCV) infection, comprising contacting an isolated, purified, or synthetic polypeptide comprising an amino acid sequence of at least 8 amino acids in length which amino acid sequence is encoded by an HCV nucleic acid molecule comprising a nucleotide sequence corresponding to SEQ ID NO:1 and translated in a reading frame corresponding to the reading frame of SEQ ID NO:1 and +1 to the standard HCV reading frame, which polypeptide is immobilized on a surface, with a biological sample from a subject under conditions where the polypeptide and an antibody that binds to the polypeptide can bind, determining the presence or absence of an antibody that binds to the polypeptide, wherein the presence or absence of the antibody is detected using a secondary antibody or fragment thereof which is detectably labeled, and wherein presence of the antibody indicates infection with HCV.

86. (New) The method of claim 85, wherein an enzyme-linked immunosorbent assay (ELISA) assay is used to detect a binding antibody in the biological sample.

87. (New) The method of claim 85, wherein a radioimmunoassay (RIA) is used to detect a binding antibody in the biological sample.

88. (New) The method of claim 85, wherein a western blot assay is used to detect a binding antibody in the biological sample.

89. (New) The method of claim 85, wherein the immobilized polypeptide is supplied in a kit.

90. (New) A kit for diagnosing Hepatitis C virus (HCV) infection, comprising an isolated, purified, or synthetic polypeptide comprising an amino acid sequence of at least 8 amino acids in length which amino acid sequence is encoded by an HCV nucleic acid molecule comprising a nucleotide sequence corresponding to SEQ ID NO:1 and translated in a reading frame corresponding to the reading frame of SEQ ID NO:1 and +1 to the standard HCV reading frame, which polypeptide is immobilized on a surface.

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91. (New) The kit for of claim 90, further comprising a secondary anti-human ntibody which is detectably labeled.